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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,757	02/14/2002	Steven Hauptman	1619-US	1786

7590
Legal Department
Teradyne, Inc.
321 Harrison Avenue
Boston, MA 02118

07/23/2003

EXAMINER

TERESINSKI, JOHN

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,757

Applicant(s)

HAUPTMAN, STEVEN

Examiner

John Teresinski

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 2-4 are objected to because of the following informalities:

Claim 2 recites the limitation "the first and second circuit boards" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the border" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the first and second printed circuit boards" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

For the purpose of examination, claims 2-4 are assumed to be dependant on claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 5,426,563 to Moresco et al..

Regarding claims 1 and 8, Moresco et al. disclose a printed circuit board assembly having:

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a first circuit board having a first device side, the first device side having a portion configured to mount a first plurality of semiconductor devices (column 5 lines 54-68, Fig. 1 element 100a);

a second circuit board having a second side and disposed in confronting parallel relationship to the first circuit board (column 5 lines 54-68, Fig. 1 element 100b); and

a border interposed between the first and second boards and disposed around the first and second portions to form a liquid tight container with an inlet to receive electrically nonconducting liquid and an outlet for discharging (column 8 lines 36-50).

Regarding claim 2, Moresco et al. disclose channel cards for use in a semiconductor tester (column 8 lines 51-54).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moresco et al. in view of U.S. Patent No. 4,749,943 to Black.

Regarding claim 5, Moresco et al. does not disclose a computer workstation or a testhead adapted for being carried by a manipulator. Black disclose that it is well known in the art to test printed circuit boards with a computer workstation and a testhead adapted for being carried by a manipulator (column 5 lines 31-58). It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to include a computer workstation and testhead as taught by black into Moresco et al. to ensure the correct functioning of electronic components loaded on the board (column 1 lines 15-25).

Regarding claims 4 and 7, Moresco et al. disclose first and second boards with devices solely on the first and second sides (column 9 lines 1-5, Fig. 1 elements 110).

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moresco et al. and Black as applied to claim 5 above, and further in view of U.S. Patent No. 6,052,284 to Suga et al..

Regarding claims 3 and 6, Moresco et al. as modified does not disclose first and second seals disposed between top and bottom edges. Suga et al. disclose a liquid tight printed circuit board chamber including disclose first and second seals disposed between top and bottom edges (column 3 lines 44-50, Fig. 2 elements 27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include seals as taught by Black into Moresco et al. as modified for the purpose of providing an improved container with liquid tight seals (column 3 lines 44-46).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is cited to further show the state of the art with respect to printed circuit board testing and cooling methods and devices in general:

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U.S. Patent No. 6,587,345 to Chu et al. disclose a printed circuit board assembly with a liquid cooling container.

U.S. Patent No. 5,835,349 to Giannatto et al. disclose a printed circuit board mounted heat exchanger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (703) 305-4746. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (703) 308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872 9319 for regular communications and (703) 872 9318 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JT
JT

July 17, 2003



N. Le
Supervisory Patent Examiner
Technology Center 2800